Ch.11-Q1+Q2 Revisin Sheet

a. Na

b. 4.5 g/mL

a. 35 885 g/mL

a. macroscopic

16. Matter that is large enough to be seen is _____.

b. 0.45 g/mL

Modified True/False

Indicate whether the statement is true or false. If false, change the identified word or phrase to make the statement true.

| | 1. | All of the noble gas elements except <u>neon</u> have eight electrons in their outermost energy level. |
|---------------------------|------------------------|---|
| | 2. | The maximum number of electrons in any <i>p</i> sublevel is <u>six</u> . |
| | 3. | All <i>s</i> orbitals are <u>spherical</u> . |
| | 4. | Atoms form bonds in such a way as to produce the electron configuration of <u>a noble gas</u> . |
| | 5. | Electronegativity differences that result in a polar covalent bond range between 0.5 and 4.0 . |
| | 6. | Conductivity in metals can be explained by what is called a sea of electrons. |
| | 7. | All triatomic molecules are linear. |
| | 8. | The geometry of alkene molecules is rigid because of the presence of a <u>double</u> bond. |
| | 9. | A <u>nonpolar</u> molecule may contain polar covalent bonds. |
| | 10. | A dipole interaction takes place when the positive end of one polar molecule attracts the <u>positive</u> end of a second polar molecule. |
| Multi j Identif | ple C fy the | Choice <i>choice that best completes the statement or answers the question.</i> |
| | 11. | A physical property of zinc metal is |
| | | a. its color |
| | | b. whether it burns c how it reacts with nitrogen gas |
| | | d. whether it changes when placed into acid |
| | 12. | Which of the following materials cannot be broken down into a simpler form? |
| | | a. compound c. mixture |
| | 13 | U. SOLUTION U. ELEMENT An example of a pure substance in everyday life is |
| | 19. | a. pond water c. a cola drink |
| | | b. sugar d. concrete |
| | 14. | An example of a chemical formula is |

 $c. \quad H_2SO_4$

_____15. In a list of the densities of common materials, the one density that might not seem reasonable is ______.

d. d = 13.6 g/L

c. 2.54 g/mLd. 1.000 g/mL

c. a scientific model

| | | b. massive | d. | submicroscopic |
|---|-----------------|---|------------|---|
| _ | 17. | Water and hydrogen peroxide are both compose | ed o | f atoms of hydrogen and oxygen. The differences lie in the |
| | | arrangement of the atoms. | | |
| | | a. behavioral | c. | macroscopic |
| | | b. composed | d. | submicroscopic |
| _ | 18. | Classification based on measurements is said to | be | |
| | | a. composed | c. | qualitative |
| | | b. observed | d. | quantitative |
| | 19. | When ice melts and becomes liquid water, it ha | s un | dergone a . |
| _ | | a. chemical change | c. | physical change |
| | | b. chemical property | d. | physical property |
| | 20. | Which of the following liquids is most volatile? |) | |
| _ | | a. alcohol | c. | cooking oil |
| | | b. motor oil | d. | water |
| | 21 | A 26.0- α sample of a liquid was found to have a | a vo | lume of 13.0 mL . What is the density of the liquid? |
| _ | 21. | a = 0.500 g/mL | с то | 39.0 g/mL |
| | | b 2.00 g/mL | d. | 338 g/mL |
| | 22 | If 14 atoms of carbon react with 28 atoms of ox | vne | n to form carbon dioxide, how many atoms are contained |
| - | <i>LL</i> . | in the carbon dioxide that is produced? | yge | in to form carbon dioxide, now many atoms are contained |
| | | a 14 | C | 28 |
| | | b 21 | d. | 42 |
| | 23 | The only substamic particle that does not carry | on d | alectric charge is the |
| - | 23. | a proton | | electron |
| | | a. proton | с. d | nucleus |
| | 24 | The compact way to amongo the three forms of a | u. | nucleus |
| - | 24. | frequency is | lecu | comagnetic radiation listed below, from highest to lowest |
| | | a = ultraviolet > visible > infrared | C | infrared > visible > ultraviolet |
| | | a. $unraviolet > visible > infrared$ | c. d | infrared > ultraviolet > visible |
| | 25 | According to the law of concernation of matter | u. ;f / | $ 0 _{\alpha} = \frac{1}{10} \frac{1}{100} \frac{1}{$ |
| - | 23. | According to the law of conservation of matter, | II 4 | so g of hydrogen react with chlorine to produce 146 g of |
| | | hydrogen chloride, now many granis of chloring $2 - 40 \text{g}$ | | 146 g |
| | | a. 4.0 g b. $1/2 \text{ g}$ | c. d | 140 g |
| | 26 | $\begin{array}{c} \mathbf{U}, 142 \\ \mathbf{y} \\ \mathbf{W}, \mathbf{u} \\ \mathbf{y} \\ \mathbf{u} $ | u. | 150 g |
| - | 20. | which of the following are definitely in atoms (| | ie same element? |
| | | a. 5 protons, 5 neutrons and 5 protons, 4 neutrons | ons | |
| | | a protons 4 neutrons and 3 protons 4 neutrons | ons | |
| | | d 3 protons 4 neutrons and 4 protons 3 neutrons | ons | |
| | 27 | The is where the electron is most likely t | | found |
| - | 21. | ne is where the electron is most likely t | 0.06 | e louilu. |
| | | a. ellet gy level | с. d | orbit |
| | 20 | The steam is much as of all an in a 17. How we are | u. | oron |
| - | 28. | The atomic number of chlorine is 17. How man | y va | alence electrons does an atom of chlorine have? |
| | | a. 2 | с. ч | 8 |
| | • | D. / | a. | 17 |
| _ | 29. | Horizontal rows of the periodic table are known | ı as | · |
| | | a. groups | C. | periods |
| | | D. Tamilies | a. | columns |
| _ | 30. | Almost all of Earth's atmosphere is made up of | | |
| | | a. metals | c. | metalloids |
| | | | | |

| | b. nonmetals | 1. | synthetics |
|---------|--|-----------------|--|
| 31. | A certain element is a gas and does not conduct e | elec | ctricity or heat. Which of the following is a possible |
| | number of valence electrons for the atoms of this | s el | ement? |
| | a. 1 c | с. | 3 |
| | b. 2 d | 1. | 6 |
| 32. | The properties of a compound are the prop | per | ties of the elements that form it. |
| | a. similar to c | 2. | identical to |
| | b. different from d | 1. | derived from |
| 33. | A colorless, odorless gas combines with a magne | etic | , metallic element. What can you predict about the |
| | product? | | |
| | a. It will also be magnetic. | | |
| | b. A gas and a solid produce a liquid. | | |
| | c. The compound will be shiny and odorless. | • • • | |
| | d. It is impossible to predict its specific property | les | |
| 34. | Noble gases | | |
| | a. form compounds easily | | |
| | c form no compounds that occur naturally in th | he é | environment |
| | d. do not obey the octet rule | | |
| 35 | Lithium has much less attraction for any valence | ele | ectrons than does fluorine. Atoms of these two elements |
| 00. | would form bonds. | 010 | |
| | a. covalent c | с. | crystal |
| | b. ionic d | 1. | molecular |
| 36. | When reacting with an atom of fluorine, an atom | of | lithium will lose an electron and become a lithium |
| | a. compound c | с. | ion |
| | b. crystal d | 1. | molecule |
| 37. | Which of the following formulas is incorrect? | | |
| | a. $Al_2(SO_4)_3$ c | с. | Ca(OH) ₂ |
| | b. AlOH ₃ d | 1. | $(NH_4)_2S$ |
| 38. | Which of the following compounds can be used a | as a | a drying agent? |
| | a. $CuSO_4 \cdot 5H_2O$ c | 2. | calcium chloride dihydrate |
| | b. hygroscopic alum c | 1. | the dihydrate of calcium sulfate |
| 39. | Light is released when an electron moves from h | igh | er energy levels to a lower energy level. The resulting |
| | spectrum is a(n) spectrum. | _ | |
| | a. absorption c | 2. 1 | excitation |
| 40 | U. emission C | J. 1 | lower energy |
| 40. | If an atom contains six energy levels, now many | su | four |
| | a. one c |). 1 | six |
| 41 | Compare the maximum number of electrons need | ı. Sihi | bin sublevel 2 d with the merimum number that could be |
| 41. | in sublevel 4d | 5101 | le in sublevel <i>5a</i> with the maximum number that could be |
| | a They are the same | 2 | There are more in $4d$ |
| | b. There are more in 3 <i>d</i> . | 1. | They are impossible to compare. |
| 42 | Which is a possible last sublevel for an element f | fou | nd in Group 18? |
| | a. $3p^6$ | 2. | $4p^3$ |
| | b. $4s^2$ | 1. | $4d^8$ |
| 43. | In going from left to right in any given row in the | e p | eriodic table, the size of atoms generally . |
| | a. increases c | с. ¹ | stays the same |
| | | | - |

| | b. decreases | d. | changes randomly |
|---------|---|------|--|
| 44. | The most important alloy of zinc contains copp | er a | nd is called |
| | a. steel | c. | brass |
| | b. zinc oxide | d. | slag |
| 45. | Active metals are in the region of the pe | riod | ic table. |
| | a. <i>s</i> | c. | d |
| | b. <i>p</i> | d. | f |
| 46. | Bromine is a typical nonmetal. A bromide ion | is | a bromine atom. |
| | a. larger than | c. | the same size as |
| | b. smaller than | d. | impossible to compare with |
| 47. | The most unreactive group of elements is the _ | | |
| | a. halogens | c. | alkali metals |
| | b. noble gases | d. | transition elements |
| 48. | Most transition metals have oxidation st | ate(| 8). |
| | a. no | c. | two |
| | b. only one | d. | multiple |
| 49. | Transition metals have multiple oxidation state | s be | cause of the involvement of the electrons in |
| | chemical bonding. | | |
| | a. <i>s</i> | c. | d |
| | b. <i>p</i> | d. | f |
| 50. | The inner transition elements are found in the | | _ block of the periodic table. |
| | a. <i>s</i> | c. | d |
| | b. <i>p</i> | d. | f |

Matching

Match each item with the correct statement below.

| a. | alloy | h. | law of conservation of mass |
|----|-------------------|----|-----------------------------|
| b. | aqueous solutions | i. | mass |
| с. | chemical property | j. | matter |
| d. | compound | k. | physical change |
| e. | energy | 1. | properties |
| f. | exothermic | m. | quantitative |
| g. | formula | n. | solute |
| | | | |

_____ 51. Solutions in which water is the solvent.

- 52. The behavior of matter and its characteristics.
- 53. Can be observed only when there is a change in composition of a substance.
- _____ 54. The material that is dissolved in a solution.

Match each item with the correct item below. a. ionic

_____ 55. potassium nitrite

Match each statement with the correct item below.

- a. $2Na + Cl_2 \rightarrow 2NaCl$
- b. burning of coal in oxygen
- c. an amount of reactant present in a small enough amount to determine when the reaction

b. molecular

will stop

- d. NaCl in $2Na + Cl_2 \rightarrow 2NaCl$
- e. substance that slows down a reaction
- f. energy required to get a reaction started
- g. $Cl_2 + 2NaBr \rightarrow Br_2 + 2NaCl$
- h. the 2 in 2NaCl
- i. substance that speeds up a reaction without being used up
- j. any chemical change
- k. $2KBr + Pb(NO_3)_2 \rightarrow 2KNO_3 + PbBr_2$
- 1. substance that appears as a precipitate
- m. rate of $A + B \rightarrow AB$ equals rate of $AB \rightarrow A + B$
- n. either Na or Cl_2 in $2Na + Cl_2 \rightarrow 2NaCl$
- o. $Ca(OH)_2 \rightarrow CaO + 2H_2O$
- 56. double displacement
- ____ 57. synthesis
- 58. dynamic equilibrium
- ____ 59. activation energy
- _ 60. combustion
- 61. reactant
- <u>62.</u> single displacement
- 63. inhibitor

Match each statement with the correct item below.

- a. s, p, d, or f within an energy level
 b. can hold a maximum of two electrons
 d. lanthanide or actinide
 e. discovery led to electron cloud model

- c. $1s^2 2s^2 2p^6 3s^2 3p^6$
- 64. electron configuration
- 65. Heisenberg uncertainty principle
- 66. inner transition element
- 67. orbital

Match each item with the correct statement below.

- a. alkali metal
- b. alkaline earth metal
- c. halogen
- 68. Fluorine, bromine, or iodine
- 69. An element found in Group 1 of the periodic table
- 70. Sodium or cesium
- 71. Magnesium or barium
- 72. An element found in Group 2
- 73. Astatine is the largest of this family

Match each item with the correct item below.

- a. formula mass
- b. ideal gas law
- c. study that relates mass to number of particles
- d. percent yield

- e. one molecule or one mole
- f. 6.02×10^{23}
- g. 0.10 mole
- h. molar mass
- i. molar volume
- j. 0.25 mole
- k. 8.31 kPa \cdot L/mol \cdot K
- l. atomic mass unit
- m. empirical formula
- _____ 74. Avogadro constant
- _____ 75. *R*
- _____ 76. 2 g of H₂
- _____ 77. 58.5 u of NaCl
- _____ 78. NaCl
- $\underline{\qquad} 79. \quad PV = nRT$
- _____ 80. 24.5 g of H₂SO₄

Problem

The lists give the density of selected substances. Answer the following questions.

| Substance | Density (g/mL) | | |
|------------------|----------------|--|--|
| water (at 4.0°C) | 1.000 | | |
| hydrogen | 0.00090 | | |
| carbon dioxide | XXX | | |
| gasoline | 0.68 | | |
| copper | 8.89 | | |
| silver | 10.5 | | |
| mercury | 13.595 | | |
| tungsten | 19.3 | | |

81. Suppose that 10 mL of each of the three liquids in the table—water, gasoline, and mercury—were all placed in a test tube. The liquids do not mix with one another. In the three layers that would be produced, which liquid would be on top, which in the middle, and which on the bottom?

This set of data is similar to those on which Joseph Louis Proust based his law of definite proportions in 1799. Answer these questions about these data and their interpretation.

| Trial | Nitrogen Mass | Oxygen Mass |
|-------|---------------|-------------|
| 101 | 13.9 g | 16.0 g |
| 102 | 25.8 g | 29.2 g |
| 103 | 19.7 g | 22.3 g |

| 104 | 31.8 g | 36.2 g |
|-----|--------|--------|
|-----|--------|--------|

82. How are the law of definite proportions and the atomic theory related to each other?

For each of the numbered elements (1-4) shown in the periodic table in Figure 3-1, give the information asked for in the tables.



Figure 3-1

83.

| | Group | Period | Class | Number of valence electrons | Outermost energy level | Properties |
|------------|-------|--------|-------|-----------------------------|---------------------------|------------|
| Element 3: | | | | | | |

Suppose that you were asked to select an element for each application listed in the following questions. All you have on which to base your decision is the element's position in the periodic table. Refer to the periodic table in your textbook. Name the element or type of element you would choose for each application and explain your choice.

84. An element for use in making photovoltaic cells that are constructed with semiconductors. Choice: ______

Look at each of the electron dot structures shown below. In each case, decide: how many valence electrons

are present; whether or not the particle is reactive; and if it is reactive, what it could do to become part of a stable compound and what kind of bond it would form in the process.

85.

[:Br:]⁻

...

Reason:

86.

·С·

Listed below are some imaginary data for a series of compounds. Based on what you have learned, predict whether each compound is probably ionic (I) or covalent (C). If the information given might apply to either kind of compound, put a question mark (?).

- 87. Has a melting point of 1650°C.
- 88. Is a gas at room temperature.
- 89. Is a white solid at -100°C.
- 90. Is a hard, rough crystal.

Write the formula and the name for the compound formed when the following atoms or groups of atoms combine with each other.

- 91. sodium and oxygen
- 92. magnesium and phosphorus
- 93. aluminum and carbonate

A series of eight test tubes is lined up on top of a laboratory bench. The contents of these test tubes are listed. The contents are exposed to O_2 in the air. Water or energy may be added to the contents, if necessary, for reaction to occur. Predict the type of chemical reaction that is most likely to take place in each of the eight test tubes. If no reaction will take place, explain why. Give a balanced chemical equation for each reaction that takes place.

94. calcium hydroxide:

Use a table of electronegativities to find the electronegativity difference between each of the following pairs of elements and to predict the kind of bond that will be formed.

- 95. carbon and silicon
- 96. Convert each of the following temperature measurements to kelvins: 94°C, -101°C, 388°C.

The graph in Figure 10-1 shows what happens when 1 kg sample of each of two different substances are heated. Use the information in the graph to answer the questions. Assume that room temperature in this case is 300 K.



- 97. What is the melting point of substance B?
- 98. Provide the missing data in the columns.

| Temperature | Celsius, °C | Kelvin, K |
|----------------------------------|-------------|-----------|
| Melting point of gold | 1064 | c |
| Boiling point of carbon monoxide | a | 81.7 |
| Cold winter night in Siberia | b | 233 |
| Hot summer day in Phoenix, AZ | 45 | d |

Nitrogen and oxygen combine with each other to form a series of compounds. This chart summarizes laboratory research done on this series of compounds. From the data supplied, calculate the empirical and molecular formulas for each oxide listed.

| Compound | Percentage Nitrogen | Percentage Oxygen | Molecular Mass |
|----------|------------------------|----------------------|----------------|
| А | 63.6 | 36.4 | 44.01 u |
| В | 30.4 | 69.6 | 46.00 u |
| С | 36.9 | 63.1 | 76.01 u |
| D | 25.9 | 74.1 | 108.01 u |
| Е | 46.7 | 53.3 | 30.01 u |

- 99. Compound B is _____.
- 100. Compound E is _____.

Ch.11-Q1+Q2 Revisin Sheet Answer Section

MODIFIED TRUE/FALSE

1. ANS: F, helium

| | PTS: | 1 | DIF: | В | OBJ: | 4-4 | | |
|-----|------|-------------|------|---|------|-----|------|---|
| 2. | ANS: | Т | | | PTS: | 1 | DIF: | В |
| | OBJ: | 7-2 | | | | | | |
| 3. | ANS: | Т | | | PTS: | 1 | DIF: | В |
| | OBJ: | 7-3 | | | | | | |
| 4. | ANS: | Т | | | PTS: | 1 | DIF: | В |
| | OBJ: | 9-2 | | | | | | |
| 5. | ANS: | F, 2.0 | | | | | | |
| | | | | | | | | |
| | PTS: | 1 | DIF: | В | OBJ: | 9-1 | | |
| 6. | ANS: | Т | | | PTS: | 1 | DIF: | В |
| | OBJ: | 9-3 | | | | | | |
| 7. | ANS: | F, Some | | | | | | |
| | | | | | | | | |
| | PTS: | 1 | DIF: | В | OBJ: | 9-5 | | |
| 8. | ANS: | Т | | | PTS: | 1 | DIF: | В |
| | OBJ: | 9-5 | | | | | | |
| 9. | ANS: | Т | | | PTS: | 1 | DIF: | В |
| | OBJ: | 9-6 | | | | | | |
| 10. | ANS: | F, negative | | | | | | |
| | | | | | | | | |
| | PTS: | 1 | DIF: | В | OBJ: | 9-2 | | |

MULTIPLE CHOICE

| 11. | ANS: | А | PTS: | 1 | DIF: | В | OBJ: | 1-4 |
|-----|------|---|------|---|------|---|------|-----|
| 12. | ANS: | D | PTS: | 1 | DIF: | В | OBJ: | 1-2 |
| 13. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 1-1 |
| 14. | ANS: | С | PTS: | 1 | DIF: | В | OBJ: | 1-2 |
| 15. | ANS: | А | PTS: | 1 | DIF: | В | OBJ: | 1-3 |
| 16. | ANS: | А | PTS: | 1 | DIF: | В | OBJ: | 1-3 |
| 17. | ANS: | D | PTS: | 1 | DIF: | В | OBJ: | 1-3 |
| 18. | ANS: | D | PTS: | 1 | DIF: | В | OBJ: | 1-1 |
| 19. | ANS: | С | PTS: | 1 | DIF: | В | OBJ: | 1-5 |
| 20. | ANS: | А | PTS: | 1 | DIF: | В | OBJ: | 1-4 |
| 21. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 1-4 |
| 22. | ANS: | D | PTS: | 1 | DIF: | В | OBJ: | 1-6 |
| 23. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 2-2 |
| 24. | ANS: | А | PTS: | 1 | DIF: | В | OBJ: | 2-5 |

| 25. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 2-1 |
|-----------|------|---|---------------|---|------|--------|------|------------------------|
| 26. | ANS: | А | PTS: | 1 | DIF: | А | OBJ: | 2-2 |
| 27. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 2-4 |
| 28. | ANS: | В | PTS: | 1 | DIF: | А | OBJ: | 2-5 |
| 29. | ANS: | С | PTS: | 1 | DIF: | В | OBJ: | 3-1 |
| 30. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 3-5 |
| 31. | ANS: | D | PTS: | 1 | DIF: | А | OBJ: | 3-5 |
| 32. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 4-1 |
| 33. | ANS: | D | PTS: | 1 | DIF: | В | OBJ: | 4-1 |
| 34. | ANS: | С | PTS: | 1 | DIF: | В | OBJ: | 4-5 |
| 35. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 4-4 |
| 36. | ANS: | С | PTS: | 1 | DIF: | В | OBJ: | 4-4 |
| 37. | ANS: | С | PTS: | 1 | DIF: | В | OBJ: | 5-3 |
| 38. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 5-3 |
| 39. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 7-1 |
| 40. | ANS: | D | PTS: | 1 | DIF: | В | OBJ: | 7-2 |
| 41. | ANS: | А | PTS: | 1 | DIF: | В | OBJ: | 7-2 |
| 42. | ANS: | А | PTS: | 1 | DIF: | А | OBJ: | 7-4 |
| 43. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 8-3 |
| 44. | ANS: | С | PTS: | 1 | DIF: | В | OBJ: | 8-4 |
| 45. | ANS: | А | PTS: | 1 | DIF: | В | OBJ: | 8-1 |
| 46. | ANS: | А | PTS: | 1 | DIF: | В | OBJ: | 8-3 |
| 47. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 8-2 |
| 48. | ANS: | D | PTS: | 1 | DIF: | В | OBJ: | 8-5 |
| 49. | ANS: | С | PTS: | 1 | DIF: | В | OBJ: | 8-4 |
| 50. | ANS: | D | PTS: | 1 | DIF: | В | OBJ: | 8-4 |
| | | | | | | | | |
| MATCHIN | NG | | | | | | | |
| | | | | | | | | |
| 51. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 1-2 |
| 52. | ANS: | L | PTS: | 1 | DIF: | В | OBJ: | 1-3 |
| 53. | ANS: | С | PTS: | 1 | DIF: | В | OBJ: | 1-4 |
| 54. | ANS: | Ν | PTS: | 1 | DIF: | В | OBJ: | 1-2 |
| | | | | | | | | |
| 55. | ANS: | А | PTS: | 1 | DIF: | В | OBJ: | 5-4 |
| 56 | ANG | V | DTC | 1 | DIE | D | OBI | 6 / |
| 50. 57 | ANS. | | DTS. | 1 | DIF. | D B | ODJ. | 6 / |
| 58 | ANS. | A | DTS. | 1 | DIF. | D B | ODJ. | 67 |
| 50. 50 | ANS. | F | PTS. | 1 | DIF: | B | OBJ. | 6-7 |
| 59. 60 | ANS. | R | л 13. ртς. | 1 | DIF. | B | ORI- | 6-1 |
| 61 | ANC. | N | г 15. ртς. | 1 | DIF. | B | ORI- | 0- 4 6₋2 |
| 67 | ANS. | G | г 15. ртς. | 1 | DIF. | B | ORI- | 6-4 |
| 62. 63 | ANC. | F | г 13. ртς. | 1 | DIF. | B | ORI- | 6_7 |
| 03. | лио. | L | 110. | 1 | | U | ODJ. | 0-7 |
| 64. | ANS: | С | PTS: | 1 | DIF: | В | OBJ: | 7-3 |
| 65. | ANS: | E | PTS: | 1 | DIF: | В | OBJ: | 7-2 |

| 66. | ANS: | D | PTS: | 1 | DIF: | В | OBJ: | 7-3 |
|-----|------|---|------|---|------|---|------|------|
| 67. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 7-2 |
| | | | | | | | | |
| 68. | ANS: | С | PTS: | 1 | DIF: | В | OBJ: | 8-1 |
| 69. | ANS: | А | PTS: | 1 | DIF: | В | OBJ: | 8-1 |
| 70. | ANS: | А | PTS: | 1 | DIF: | В | OBJ: | 8-1 |
| 71. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 8-1 |
| 72. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 8-1 |
| 73. | ANS: | С | PTS: | 1 | DIF: | В | OBJ: | 8-1 |
| | | | | | | | | |
| 74. | ANS: | F | PTS: | 1 | DIF: | В | OBJ: | 12-1 |
| 75. | ANS: | Κ | PTS: | 1 | DIF: | В | OBJ: | 12-5 |
| 76. | ANS: | Н | PTS: | 1 | DIF: | В | OBJ: | 12-1 |
| 77. | ANS: | А | PTS: | 1 | DIF: | В | OBJ: | 12-2 |
| 78. | ANS: | Μ | PTS: | 1 | DIF: | В | OBJ: | 12-6 |
| 79. | ANS: | В | PTS: | 1 | DIF: | В | OBJ: | 12-5 |
| 80. | ANS: | J | PTS: | 1 | DIF: | А | OBJ: | 12-1 |
| | | | | | | | | |

PROBLEM

| 81. | ANS: |
|-----|------|
| | |

Gasoline floats on water, and water floats on mercury.

| 82. | PTS: 1 ANS: | DIF: | А | OBJ: | 1-4 | | | | | |
|-----|--|---|---|------|-----|--|--|--|--|--|
| | The law of definite p atoms that are always | The law of definite proportions can be explained if you assume that both nitrogen and oxygen are made of atoms that are always the same with a constant mass. | | | | | | | | |
| 83 | PTS: 1 . ANS: | DIF: | В | OBJ: | 2-1 | | | | | |
| | 17, 6, nonmetal, 7, 6, | 17, 6, nonmetal, 7, 6, poor conductor and nonlustrous | | | | | | | | |
| 84 | PTS: 1 ANS: | DIF: | В | OBJ: | 3-2 | | | | | |
| 04. | a metalloid; Metalloi | a metalloid; Metalloids are commonly used in the manufacture of semiconductors. | | | | | | | | |
| 85 | PTS: 1 | DIF: | В | OBJ: | 3-5 | | | | | |
| 63. | 8, not reactive | | | | | | | | | |
| 86 | PTS: 1 | DIF: | А | OBJ: | 4-4 | | | | | |
| 00 | . Ano. | | | | | | | | | |

4, reactive, It would probably share electrons with other atoms to form four covalent bonds.

PTS: 1 DIF: A OBJ: 4-4

87. ANS: I

| 88. | PTS: ANS: C | 1 | DIF: | В | OBJ: | 4-6 |
|-----|--|---|-----------------|----------------------|-----------------------------|---|
| 89. | PTS: ANS: ? | 1 | DIF: | В | OBJ: | 4-6 |
| 90. | PTS: ANS: I | 1 | DIF: | В | OBJ: | 4-6 |
| 91. | PTS: ANS: Na ₂ O; | 1 sodium oxide | DIF: | В | OBJ: | 4-6 |
| 92. | PTS: ANS: Mg ₃ P ₂ | 1 ; magnesium p | DIF: hosphic | B le | OBJ: | 5-2 |
| 93. | PTS: ANS: Al ₂ (CO | 1 D ₃) ₃ ; aluminum | DIF: | B | OBJ: | 5-2 |
| 94. | PTS: ANS: Decon | 1 nposition will c | DIF: occur w | B ith heating. Ca | OBJ: (OH) ₂ + | 5-2 energy \rightarrow CaO + H ₂ O |
| 95. | PTS: ANS: $\Delta EN =$ | 1 = 0.7; polar cov | DIF: alent | A | OBJ: | 6-5 |
| 96. | PTS: ANS: 367 K | 1 , 172 K, 661 K | DIF: | A | OBJ: | 9-1 |
| 97. | PTS: ANS: It is ap | 1 pproximately 20 | DIF: 00 K. | В | OBJ: | 10-5 |
| 98. | PTS: ANS: a191 | 1 1.5, b40, c. 13 | DIF: 337, d. | B 318 | OBJ: | 10-4 |
| 99. | PTS: ANS: NO ₂ (I | 1 Empirical and r | DIF: nolecul | B ar formulas are | OBJ: the sar | 10-5 ne.) |
| | PTS: | 1 | DIF: | В | OBJ: | 12-5 |

100. ANS: NO (Empirical and molecular formulas are the same.)

PTS: 1 DIF: B OBJ: 12-5